WHAT IS CLAIMED IS:

- 1. A genetically manipulated, replicating, infectious paramxyovirus, comprising at least one alteration to the viral genome, selected from an insertion and a deletion.
- 2. The virus of Claim 1 wherein the viral genome is derived from respiratory syncytial virus.
- 3. The virus of Claim 1 wherein the viral genome is derived from parainfluenza virus.
- 4. A process for the preparation of an infectious replicating paramxyovirus comprising the steps of:
 - 1. providing a host cell expressing a heterologous RNA polymerase;
 - 2. introducing into said host cell:
 - one or more DNA molecules encoding the virus N, P and L proteins operably linked to a polymerase binding site;
 - 2. a DNA molecule comprising the cDNA of the paramxyovirus wherein the cDNA encodes the entire genome of the virus or is modified by the incorporation of a mutation or heterologous sequence, and wherein the DNA molecule is transcribed by a heterologous RNA polymerase, and
 - 3. isolating the virus produced by the cell.
 - 5. The process of Claim 4 wherein the virus is respiratory syncytial virus.
 - 6. The process of Claim 4 wherein the virus is parainfluenza virus.